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Article

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Property Rights with Respect to Modern Money: A Libertarian Justification

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Abstract: The traditional Lockean justification of property rights has been argued to be no longer valid in a world in which much wealth does not derive from acquisitions of natural resources, and in which much property, such as money, is intangible. This means that libertarians need to reconsider whether and why property rights are justified for objects that fall outside of the scope of the Lockean justification. This paper gives a justification of property rights in relation to modern money, which uses the self-ownership principle as its central premise. Since modern money is a form of credit, I start with a justification of credit property rights. I then consider both money under gold convertibility and present-day fiat systems, showing that the justification of credit property rights remains valid under these conditions.

Keywords: property rights, libertarianism, money, Post-Keynesian economics, credit theory of money

1 Introduction

The Lockean justification of property rights has been under increasing pressure, not least from libertarians who have traditionally accepted it. One line of reasoning, by left-libertarians, is that it rests on the untenable doctrine that worldly resources can be freely appropriated as long as the – relatively weak – Lockean proviso is satisfied. A different type of reappraisal of Locke has come from Child (1990) and Moller (2017), who question the central Lockean supposition that property comes into existence after an initial appropriation of worldly resources. In today's world, much of our property, such as money, company shares and intellectual property, does not seem to fit in such a paradigm.

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The *resource paradigm*, as Moller calls it, understands property as coming into existence when a physical object is initially appropriated from nature, after which it can undergo a long sequence of alterations and ownership transfers. Since – I agree with Moller – the resource paradigm should be mostly abandoned, it must be investigated if and how property rights can be justified when property does not arise out of initial appropriations, but out of human interactions. Since modern types of property, such as money and intellectual property, differ hugely in nature, it is likely that justifications of property rights differ as well, depending on the type of article of property concerned.

The aim of this paper is to give a justification of property rights with respect to modern money within the tradition of deontological libertarianism, commonly associated with Nozick (1974). However, I define libertarianism minimally as a commitment to the self-ownership principle, and I reject the notion that this principle or other deontological principles that form the basis of libertarianism must necessarily lead to a traditional libertarian politics, which advocates for a small state and strong private property rights. The modern libertarian project should be able to reconsider its political stances on the basis of its principles and the current state of the world, such as left-libertarians like Hillel Steiner and Michael Otsuka have already done to some extent. Few libertarians, however, have as of yet recognized the need to reconsider the justification of property rights in a world in which the resource paradigm does not accurately describe many forms of property.

This paper contributes to this 'revisionary' libertarian project by looking specifically at property rights with respect to modern money. This requires the adoption of a new paradigm which is appropriate given the nature of money. In the debate about the nature of money, I side with the credit theory, according to which money (or modern money, at least) is a form of credit. Modern money, however, is as much a *system*, the monetary system, as an object in your wallet or your bank account. Hence, a justification needs to take into account both the *local* nature of money, which consists of relations between creditors and debtors, as well as the *institutional* nature of modern money, which consists of facts about the monetary system, the legal system (for enforcement mechanisms) and the source of money's value.

The central premise of my justification is the self-ownership principle, according to which individuals have a right of non-interference to control their own bodies and intellectual capacities. On that basis, I first set out to justify property rights in relation to what I call basic credit. Credit arises when one person promises to transfer something of value (which could be property or a service) to another at a later date. Basic credit is transferable: the creditor can transfer the claim on the debtor to someone else. Because credit and credit

property rights arise, in a descriptive sense, out of voluntary actions performed by individuals, the self-ownership principle prohibits interference with these property rights.

The above applies to basic credit, but it does not automatically apply to modern credit in general or modern money in particular, in virtue of the more complicated institutional features upon which modern credit and modern money depend. Hence, the remainder of the paper attempts to provide a compelling ontological account of modern money, and justifies property rights in relation to modern money as described. I introduce two provisos that must be shown to be satisfied by a justification of property rights with respect to credit or money in a particular institutional context. The enforcement proviso requires that the enforcement of repayment does not involve rights violations. The complicity proviso requires that the repayment of the debt does not involve rights violations (not within the act of repayment in itself, nor by a rights violation elsewhere in which the creditor and debtor are complicit). In particular, the complicity proviso requires that property rights with respect to the medium of repayment, the type of object that is used to repay debts, must be justified.

In my account of the nature of modern money, I draw upon the Post-Keynesian literature. In particular, I use the *Theory of the Monetary Circuit* (Graziani 2003) to argue that modern money is a system of credit relations, and that money's value ultimately derives from production. Claims by neo-chartalists about the importance of the state for the nature of money will also be discussed, but I argue that they do not upset my libertarian justification of property rights.

While I justify property rights as they exist today, I do not argue that actual people's property rights are justified. That is, I provide a *hypothetical* justification of property rights with respect to modern money, which may fail to translate to the actual property titles for a variety of reasons. Put simply, a hypothetical justification shows that it is possible to justifiably own modern money.

I take into account the possibility that the Lockean justification of property rights fails for both intangible property as well as physical property. This raises questions about how a just society should regulate the use of natural resources and, more generally, physical property. I do not want to answer these questions, and will focus solely on the justification of property rights with respect to money. This will somewhat frustrate my endeavour, since a central concern will be that money might be dependent on physical property. Given my lack of commitments about physical property rights, I need to take into the account the possibility that this would be a problem. However, my approach has the benefit of being persuasive given a wide range of background assumptions.

Section 2 discusses the self-ownership principle and the way in which it has been used to justify property rights. Second, it defines the project of the paper, which is to provide an institutional justification of property rights with respect to modern money. Section 3 provides a justification of property rights with respect to basic credit, and an incomplete institutional justification of property rights with respect to modern credit. Section 4 discusses the justifiability of property rights with respect to modern money under gold convertibility. Section 5 discusses the justifiability of property rights with respect to present-day modern money.

2 The Self-ownership Principle and Property Rights

Libertarian arguments in favor of property rights are often based on one or another version of the self-ownership principle. I discuss the self-ownership principle and give my preferred minimal version. I then discuss some problems with traditional libertarian justifications, before defining, in Section 2.1, what the justification of this paper should do.

A frequently used formulation of the principle comes from G.A. Cohen, and is as follows.

> According to the thesis of self-ownership, each person possesses over himself, as a matter of moral right, all those rights that a slaveholder has over a complete chattel slave as a matter of legal right, and he is entitled, morally speaking, to dispose over himself in the way such a slaveholder is entitled, legally speaking, to dispose over his slave. (Cohen 1995, 68)

This characterization of the principle is helpful because it provides us with an intuitive way of understanding what it means to own oneself. However, its implications are imprecise as long as no legal background of slaveholder rights is defined. I favor a rights-based conception of ownership in which ownership is a set of explicitly given rights, an approach also taken by most left-libertarians (Vallentyne, Steiner, and Otsuka 2005). There are disagreements about the 'correct' set of rights. For example, many would deny that self-ownership entails the right to transfer ownership of oneself to another (while the right to transfer ownership of a slave *is* a legal right in a system of chattel slavery). In order to provide an argument that appeals to as many libertarians (and others) as possible, I will use a weak version of the self-ownership principle that is restricted to *use* and *control rights*:

> The (limited) self-ownership principle prescribes that any individual has the right (a moral right of non-interference)[1] to use and control her body and intellectual capacities if she does not infringe upon the rights, including self-ownership rights, of others.

This version still contains some gaps that will mostly be left empty here. First, it must be clarified which other rights fall under "the rights of others" in the exception clause. According to many libertarian accounts, these are restricted to self-ownership rights and world-ownership rights. These other rights could be so restrictive as to leave no room for the right to use and control oneself, in which case self-ownership is said to be merely *formal*. It will be assumed in this paper that the rights of others leave sufficient room for genuine use and control of oneself, i.e., the self-ownership rights must be *robust* in the sense of Otsuka (1998).[2]

Second, the notion of interference needs to be clarified. (Is blocking entrance of someone's house interference? Can threats be interference, or only actual physical force?) It will be assumed here that interference must involve some form of physical force or threats thereof.

Third, the principle describes when interference is not allowed, but leaves open when and in what way interference with individuals' actions *is* allowed. It is assumed in this paper that actions that violate the rights of others may be interfered with, but I leave undiscussed what such interference may look like.

The arguments in this paper depend on this limited self-ownership principle, as opposed to *full* self-ownership, which also involves the right to transfer the full set of one's ownership rights to another person.

Justifications of property rights on the basis of the self-ownership principle have been under scrutiny for a while – often on libertarian terms, attacking the validity of the argument rather than the self-ownership principle used as a premise (see e.g., Cohen 1995; Fried 2004). The specifics of this debate are beyond the scope of this paper, but a few points will be helpful. The justifications follow John Locke and Nozick (1974) in analyzing property as a combination of a just initial acquisition of natural resources and subsequent just transfers: the *resource paradigm*. Much discussion has focused on the first aspect, when and how unowned

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1 Here, a right is a moral prohibition for others to intentionally interfere with the actions described by that right. It is possible that activities to which one has a right are immoral, in which case they can be denounced but may not be interfered with. For example, while it may be morally required for a bystander to help a drowning person, the activity of not doing so may be a right, in which case you may not be forced to help.

2 Your self-ownership would be formal, for example, in the case that all of the physical world is owned by a dictator who only allows you to make use of the world in ways permitted by him. Robustness does not require that you are able to actually *enjoy* the use and control of your body – which would mean that a person in coma has no 'robust' self-ownership – only that others are actually prohibited from using and controlling you.

resources in nature can be justly appropriated for the first time. Within this discussion much attention is given to the various versions of the *Lockean proviso*, which constrains the conditions under which initial appropriation is just. In Locke's original formulation, initial acquisition can be just only if "enough and as good is left in common for others."

Two arguments against property rights question the possibility of just initial acquisition. First, it is far from clear that appropriation of natural resources can be justified on the basis of the self-ownership principle at all. The justification involves a transition from owning oneself to owning the physical products of one's labor that is intuitive to some but hard to make analytically precise (Fried 2004). While there is an interesting argument to be made that one has a non-interference right to the use of the fruits of one's labor, it is far from clear that people have the full set of property rights, including the right of transfer and bequest (Scanlon 1976). Moreover, it is far from clear why we should consider the world as initially unowned rather than initially owned collectively, or divided equally, by some group of people – in which case there is nothing available to appropriate. Second, the Lockean proviso (in whatever formulation) is often recognized not to be satisfied for most present-day property. So even if one accepts the possibility of just initial acquisition, the conditions under which the proviso is satisfied may be rare.

Against these arguments there are two lines of defense. To the second argument it can be countered that many types of property in existence today (such as company shares and intellectual property) are *intangible* – they do not have a physical component. The common stocks from which such types of property are initially acquired (such as, in the case of intellectual property, the set of ideas) are not typically scarce, but rather infinite in size. It could be argued that the Lockean proviso is easily satisfied for these types of property (Child 1990). This counter-argument could potentially play a role in justifying ownership in credit and money as well (if money is intangible), but it is not discussed further here.

The second line of defense, used by Moller (2017) addresses both arguments, and it is the one adopted in this paper. It is based on the observation that much of today's wealth (again, in the form of intangible property) *was never initially acquired*, because such wealth does not arise out of an initial appropriation of natural resources, but rather out of interactions between individuals offering and buying services. For such types of property, the resource paradigm is invalid. This line of defense does not necessarily turn out favorable for the property rights advocate: while it allows us to say that the arguments against property rights depend on the invalid resource paradigm, it *also* means that the traditional Lockean justification of property rights depends on the invalid resource paradigm, leaving us without a justification of property rights. While Moller (2017) presents some plausible arguments that property rights stand much stronger in a world in

which most property derives from services rather than natural resources, he does not tell us what an alternative justification of property rights could look like.

Hence, this paper will take on the the task of providing such an alternative justification with respect to money. Since the motivation of this project is in part that traditional justifications of physical property rights have various problems, the possibility should be taken into account that a just system of physical property rights would be significantly different from the actual world. I do not take a stance on how such a system should look like. Typically, left-libertarians propose a system in which natural resources are initially jointly owned by a large group of people (such as all adult humans), and that appropriation is only possible with some form of consent from this group. Apart from such an alternative system of property rights, there could also be an alternative system that regulates the use of physical resources but is *not* a system of property rights. Whatever system would replace our current system, I maintain that modern money – as defined and described in detail below – plausibly would be able to continue to exist in some form. Hence, property rights with respect to modern money can be justified independently of questions about the regulation of physical resources.

2.1 What is a Justification?

The traditional Lockean justification is based on an idealized story of how individuals come to own something, either through initial acquisition or transfer. If it succeeds, it justifies property rights *hypothetically*, meaning that it shows that property rights are justified whenever they are instantiated in the way described by its story. Apart from a hypothetical justification, one could by concerned with justifying the property rights enjoyed by actual people (e.g., Bill Gates's financial assets, or everyone owning euro's). This is not the aim of this paper. The kind of justification I will be concerned with is what I call an *institutional* justification.

An institutional justification is a hypothetical justification, although it differs from the Lockean justification in two ways. First, the Lockean justification is very general, intended to apply to all sorts of physical property. The aim of this paper is to give a justification of property rights in relation to money and credit that is also hypothetical, but much less general. That is, we are concerned with *modern* money. Modern money I take to be an interesting social object with certain necessary characteristics (its ontological characteristics), pertaining to institutions such as central banks and commercial banks, and the relationships between banks and depositors. Our institutional justification aims to show that given all these ontological characteristics of modern money, property rights with respect to modern money are hypothetically justified. Although this is not an actual

justification, the nature of modern money involves facts about the actual world, such as about banks and central banks. Hence, facts about the actual world will be of importance to our hypothetical justification.

Second, the Lockean justification involves thinking about local interactions between actors that are not embedded in a wider institutional context, whereas to justify modern money or modern credit one needs to do exactly that. For example, what modern money is depends on facts about banks and central banks, not just on facts about individual instances of money, owners of money and their direct relationships.

Therefore, the justification I propose uses a two-step argument. First, for a *local* justification in relation to credit, one considers an idealized story describing an agreement between a creditor and a debtor. The local justification argues that the property rights that arise in this idealized story are justified, and it lists the necessary conditions (provisos) for property rights to be justified in actual scenarios in which property rights arise according to this story. Hence, it is similar to the traditional Lockean justification. Second, the *institutional* justification argues that these provisos are compatible with non-local facts about the nature of *modern* credit and *modern* money. That is to say, that the institutional nature of modern money or credit does not undermine the justification on the basis of the local interactions between creditors and debtors.

If the justification is successful, it shows that it is possible to justifiably own modern money if the conditions are right. It accomplishes little on the subject of actual justification, but it does absolve money itself as the source of potential failures of actual justification. Two further questions are whether it is possible to justifiably own modern money *in today's world*, and whether it is possible to justifiably own modern money *in an ideal world*, which is a world in which no rights violations occur. How much the justification accomplishes depends on these further questions. The questions will be briefly discussed in Section 5.1, where I argue both can be answered affirmatively.

Before explaining the two steps of the argument in more detail, we need a definition of property rights. Following the legal theorists Honoré (1961) and Waldron (1993), property rights in relation to an article of property *X* consist of the rights R1–R3 below.

(R1): The right to use *X*;

(R2): The right to exclude others from the use of *X*;

(R3): The right to transfer **R1**–**R3** with respect to *X* to others.

There are some other rights often associated with ownership, such as the right to receive damages if someone else unjustly destroys the resource. In this paper I will ignore these other rights and say that when an individual has rights **R1**–**R3** with respect to *X*, she has ownership of *X*, which is to say that *X* is her property. (Note that, according to this definition of ownership, the limited self-ownership principle does not give people 'ownership' of themselves, as limited self-ownership lacks a transfer right. When I refer to self-ownership I use the definition contained in the limited self-ownership principle rather than the definition given here. Nevertheless, I argue that limited self-ownership is sufficient to derive a transfer right with respect to credit and money.)

In the ordinary sense of the word 'right', the statement 'Anna has **R1** with respect to the object *X*' is a normative statement, claiming that her power to use *X* is *justified*. Having this right in the normative sense means that, under most circumstances, no one is ethically permitted to interfere with Anna's power to use *X*. Alternatively, we can speak of having rights **R1**–**R3** in a descriptive sense. The statement 'descriptively, Anna has **R1** with respect to *X*' means that, as a matter of fact, Anna has the power to use *X* (say, because a legal system protecting that power is in place).

A local justification of property rights uses a an idealized story showing how someone that acquires **R1**–**R3** descriptively also acquires **R1**-**R3** normatively. If one would accept the Lockean resource paradigm, a local justification of property rights shows that when an individual appropriates an unowned natural resource in a certain way (mixing their labor with the resource), she comes to acquire **R1**–**R3** in the normative sense. Credit, it is assumed here, is not appropriated out of nature but created from nothing. Hence, a local justification of credit must show that all of the actions needed to create the article of property and to obtain and uphold **R1**–**R3** with respect to it (*descriptively*) are *just*, meaning that others may not interfere to prevent these actions. My strategy will be to argue that these credit-generating actions are exercises of self-ownership, and therefore protected under the self-ownership principle. However, the self-ownership principle may still be violated in certain cases of credit creation, because the credit-generating actions infringe on the rights of others. Therefore, our local justification lists two necessary conditions, two provisos, that need to be satisfied in any given situation for property rights with respect to credit to be satisfied in that situation. Note that the provisos could be violated in actual situation as a result of both local facts about the relationship between the credit and debtor, as well as non-local and institutional facts.

As argued in Section 4, money is a form of credit, and therefore, a local justification of credit property rights is a local justification of money property rights.

An institutional justification of property rights with respect to modern money shows, first, that modern money is locally a form of credit that is locally justified, and second, that the two provisos are consistent with ontological facts about modern money. That is, it shows that facts about modern money do not imply that the provisos are hard or impossible to satisfy. It may still be the case that property rights with respect to modern money are often unjustified in actual situations. However, a successful institutional justification points out that such situations of unjustified property rights arise due to facts unrelated to modern money itself.

What an institutional justification does depends on what ontological facts are. Ontological facts about modern money are facts that describe necessary features of 'modern money'. For any particular thing to be modern money (i.e., a token of modern money), it must have these features. Many ontological facts are institutional, in which case a thing is a token of modern money only if it is part of the institution described by that fact. For example, a bank deposit is modern money only if its bank works like a modern commercial bank and is part of a monetary system overseen by a central bank.

What modern money *is*, and consequently what its ontological facts are, is mostly a definitional matter, although this definition should capture features of modern money that are important, and should accurately describe money as it exists in the modern world. Since most money today takes the form of deposits on a commercial bank, bank deposits will be the primary objects of analysis. Hence, 'modern money' will refer to bank deposits, and coins and bank notes will be of secondary importance. I will characterise modern money in a way that is compatible with existing literature, especially the Post-Keyenesian literature. Since credit and money are overlapping concepts (as will be argued in greater detail in the proceeding sections), the same institutional facts need to be considered for both modern credit in general and modern money. In an effort to be as precise as possible, I will state what these facts are. They include facts about laws and enforcement mechanisms that regulate credit in the modern world. They also include facts about money creation (by commercial banks), monetary policy (by central banks), and some facts about the structure of modern markets and production. Examples of modern currencies are the U.S. dollar, the euro, the pound sterling and the Japanese yen.

A final clarification is needed. My project is to create a justification of property rights with respect to money which happens to consider institutional facts – but it is *not* to create a justification of monetary institutions such as central banks. This distinction is important, since libertarians have often criticized monetary institutions. Many libertarian politicians and activists criticize the abandonment of a gold standard, and some academic libertarians propose that government should not be involved in money creation or regulation at all (Hayek 1976). These

arguments are largely irrelevant for the current project. First, the arguments are relevant to the current project only to the extent that facts about government involvement are ontologically relevant to modern money. I suggest, in Section 5, that the ontological importance of the government's control over a currency is limited (although this is disputed by neo-chartalists). Secondly, even if government interference is ontologically relevant to money, it is still possible that property rights with respect to money are justified. A libertarian is not prohibited from making use of government services, even if she advocates their abolition. Lastly, I leave open the possibility that libertarian critiques of government involvement in money are mistaken.

3 Credit Property Rights

3.1 Credit as an Exercise of Self-ownership

We start with a local justification of property rights with respect to credit and then give some initial arguments for an institutional justification. Since money is a form of credit (see Section 4), the purpose of this section is to lay the foundations of a justification of property rights with respect to money.

I will say that a *(basic) credit* is an agreement between a creditor and debtor that the debtor will transfer something of value to the creditor at an agree upon date. The debt could be repaid as an article of property such as money, or as a service – call this the *medium of repayment*. Moreover, it should be credible that the debt will be paid off, and the creditor should be able to transfer her status as creditor to another person. A credit is an article of property, since the creditor has the descriptive property rights **(R1)** the right to use it (receive the debt from the debtor), **(R2)** the right to exclude others from its use and **(R3)** the right to transfer these rights.

We can think about basic credit as a note similar to a bill of exchange. The note contains (a) an amount, (b) a date on which the amount can be collected from the debtor by the holder of the note (c) the name of the initial holder, (e) the signature of the debtor and (d) the names of the subsequent holders authorized by the previous holders.

In an idealized story, a credit, including its descriptive property rights, could be created as a result of the following set of actions.

1. Two persons, call them Bob and Anne, make some sort of voluntary exchange, in which Bob supplies something of value to Anne, and Anne draws up a credit note which lists her as the debtor, Bob as the initial holder, an agreed upon debt and an agreed upon date. She signs the note and hands it over to Bob.

2. Possibly, there is a subsequent exchange in which the current holder, Bob, receives something of value of a third person, Claire, and adds to the credit note that Claire will be the next holder, giving her the note. A number of these transfers may take place.
3. Finally, when the agreed upon date has passed, the current holder, Claire, presents the credit note to Anne, who then repays the debt to Claire.

Given that Bob, Anne and Claire act as they do above, there is an instance of descriptive property rights with respect to Anne's credit note. Since these actions are sufficient for the property rights to be created, interference with the property rights – say, by a government that does not recognize them – implies interference with the actions that generate the credit. If the actions are protected by the self-ownership principle, then interference is prohibited, in which case we may conclude that the property rights are normative, or justified.

The actions in step 1–3 by Bob, Anne and Claire are plausibly classified as use and control of their bodies and intellectual capacities. Hence, they are protected by the self-ownership principle as long as no rights of others are violated. Since the exchanges 1–3 are voluntary, the rights of the three parties plausibly are *not* violated.[3] Given that this is an idealized example, we assume that the actions in 1–3 are all there is to know: there are no facts and events regarding other parties which could threaten our justification. In that case, there are also no rights of others that are violated; all actions are exercises of self-ownership that may not be interfered with.

In this story there is no need for enforcement, since the debtor freely complies with the agreed upon terms of the credit note. The justification could fail if Anne's decision to comply is a result of the threat of an enforcement mechanism that would violate her rights. If Bob is responsible for the rights violation, then Bob's use (R3) of the credit note is a violation of Anne's rights. Hence, we obtain the following condition on the rightful acquisition of credit property rights:

> **The enforcement proviso:** property rights in relation to credit are justified only if the debtor's compliance is not a result of a violation of her rights, or the threat thereof, for which the creditor is morally responsible.

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3 There might be rights that could prevent voluntary exchanges, such as, possibly, the right not to be assisted in suicide. In that case, helping someone to commit suicide would not be allowed under the self-ownership principle, *even if* the act of committing suicide would itself be protected under the self-ownership principle. However, it seems that such cases are uncommon and do not apply to ordinary cases of debt relations. Nonetheless, there might be such cases: suppose, for example, that a debtor is hugely in debt and has a right not to be seduced into more debt, even if he would do so voluntarily. Then a creditor would infringe on this right.

Note that creditors often have no influence over the outcomes of an enforcement mechanism that is triggered on their request, which is typically the responsibility of a legal system. Hence, creditors may have no power to prevent a legal conclusion which involves rights violations, and therefore, they may not be responsible for potential rights violations. Nevertheless, it can be argued that the creditor's knowledge that the enforcement process *may* lead to that conclusion makes him morally responsible. However, I believe this would only be the case if the probability that the enforcement process would lead to a rights violation is sufficiently large. If the probability of a rights violation is small, and the creditor has no control over the outcome, then, I maintain, the enforcement proviso is satisfied. In that case, only those responsible for the enforcement mechanism are morally responsible, and therefore, the actions of the creditor remain protected under the self-ownership principle.

A second way in which the justification would fail is when the transfer of the medium of repayment, as promised by the debtor, involves a rights violation. For example, suppose that Anne's debt takes the form of a service, in which she arranges that an enemy of whoever is the holder of the credit note will be beaten up. In that case, the repayment of the credit note involves violating someone's self-ownership rights. Moreover, Bob and Anne's action to create, transfer as well as pay off the credit plausibly make them complicit in conspiring to commit battery. Hence, within this example, all actions in step 1–3 above involve rights violations.

As the example shows, we need a second proviso:

> **The complicity proviso:** property rights in relation to credit are justified only if the transfer of the credit's debt, or the promise thereof, does not make the creditor or debtor complicit in rights violations.

This concludes our local justification of property rights with respect to credit. An institutional justification of property rights with respect to modern credit needs to show that these conditions can be satisfied given institutional facts about credit in the actual world.

3.2 Complicity via Debt

There are many ways in which, in the real world, owners of credit might be complicit in rights violations. For an institutional justification, we need to consider whether ontological facts about modern credit imply such complicity. I believe there are two ways in which this can be the case. First, it may be the case that property rights in relation to the medium of repayment that is typically used (which today is modern money) are not justified. If a rights violation is implicit in owning

the medium of repayment, then a rights violation is implicit in being creditor in a system in which money is the medium of repayment. Secondly, it could be the case that the possibility of the medium of repayment to store a sufficient amount of value (in order to repay the debt) is dependent on rights violations elsewhere. The second point is a concern with the source of the value of credit. If money's source of value is necessarily something illicit, and money is the medium of repayment, then a credit's source of value is something illicit.

The following example illustrates the first kind of problem. Suppose that it has been established that no one can justifiably own gold, in the sense that having the descriptive property rights in relation to gold involves a rights violation. Then just like Bob was conspiring to commit battery with Anne, a creditor that accepts a promise of a transfer in gold is conspiring to commit whatever rights violation is involved in owning gold.

A caveat here is that the use of gold as a numéraire to denote the value of a debt does not mean that gold is the medium of repayment. It could still be the case the debt is repaid using something else, like another credit or a service, though its value is denoted using a weight in gold.

With the caveat in place, there still might be a case of the second problem, even when the medium of repayment is not always gold. Suppose that an institutional system of credit is centered around a number of banks that store gold. These banks issue credit notes that give their holders the right to receive an amount of gold at the bank. There are many non-bank credit notes in existence, whose medium of repayment is a bank note or another credit note, and whose numéraire is gold. Suppose, moreover, that the value of all credit notes in existence depends on the proper functioning of this system. Owners of bank notes regularly exchange them for gold at the bank, and we suppose that credit notes would cease to have any value if this system stopped working. In this scenario, if gold ownership involves rights violations, then the value of credit is *dependent* on rights violations. Since, presumably, creditors and debtors know about these rights violations, they are complicit in them.

In the current system, most forms of credit are repaid using money. There are exceptions, such as in finance, where it is common to borrow assets like shares or other financial instruments. However, financial instruments are forms of credit themselves. Since credit property rights are locally justified, property rights with respect to financial instruments are locally justified. Hence, there is no obvious problem of the first type here. There may be a problem of the second type, since the source of value of a credit whose medium of repayment is a second credit, depends on the source of value of the second credit. One would need to to follow the credit chain until one arrives at the ultimate source of value.

In the current system, if one follows the credit chain, one almost always arrives at money. Financial instruments are ultimately intended to pay out money. Shares, for example, give the owner a right to a part of a company's future profits – paid out as money – or a part of its liquidation balance – paid out as money. There might exist forms of credit, in the actual world, that do not depend on money in such a way – but I maintain that such forms of credit are not sufficiently prevalent to classify as modern credit. Hence, to verify that the complicity proviso is satisfied by modern credit, we need to verify that property rights with respect to modern money are (institutionally) justified. Since, as I argue below, money is a form of credit, the justification of credit property rights is largely the same project as the justification of money property rights. Since I ultimately conclude that money property rights are institutionally justified, credit property rights are institutionally justified.

3.3 Enforcement of Debt Contracts

Enforcement of debt contracts is not a necessary condition for the existence of credit ownership. If, in the absence of a threat of enforcement, the participants still behave in the expected way – such as do Anne, Bob and Claire in the story above – then there are descriptive property rights. However, present-day laws are such that all (or nearly all) credit is subject to legal enforcement mechanisms. Facts about these enforcement mechanisms are, therefore, ontologically relevant to modern credit. An institutional justification must show that descriptive use rights of modern credit are not the result of enforcement mechanisms that violate people's rights.

Usually there will be at least a weak form of enforcement in the form of social norms, such as disapproval from the community of those who do not deliver on their promises. This form of enforcement is unproblematic from the perspective of the self-ownership principle. On top of that there can be legal enforcement, which can involve violence or threats to one's property. It is the latter type of enforcement that is of concern in this section.

Contract enforcement is sometimes defended on the basis of the alienability of one's self-ownership. Such a defense depends on the full self-ownership principle, as it uses a right to transfer at least part of one's ownership in oneself to another. The most extreme example of such a transfer is selling oneself into slavery, in which case all property rights that one has in relation to oneself (use, control and transfer) are transferred to the fullest extent to another owner. Some debt contracts can be seen as a partial transfer of self-ownership, in which the creditor obtains a right to have limited control over the debtor's body in case she doesn't fulfill her obligations by herself. Enforcement that would otherwise infringe on

self-ownership would then be acceptable, because the debtor has partially forfeited her self-ownership rights.

Many libertarians reject this defense of contract enforcement, often arguing that the right to use one's body is inalienable (i.e., there is no transfer right). This problem is extensively discussed by the legal scholar Randy E. Barnett (1986) and libertarian author Murray Rothbard (1998, 133–148). Both argue that one cannot transfer a right to the use of one's own body. Consequently, someone who has contracted to perform a service cannot be forced to perform that service when she is in breach of contract; and someone who has contracted to perform labor or accept any other form of physical punishment in case she is unable to pay of a debt, cannot be forced to deliver on these promises. These right-libertarians find the solution in enforcing payment of *damages*, in the form of external resources (usually money) with respect to which people *do* have transfer rights. A service contract, they argue, involves a *conditional transfer* of a money sum from the provider to the receiver of the service, to be transferred if the provider fails to deliver the service. Similarly, a debt contract is seen as a rights transfer, with respect to an existing item of property, that has a date in the future. This solution, however, is unavailable in this paper, as we wish to show that property rights in relation to credit emerge from simple interactions that are protected by the self-ownership principle, without assuming that property rights exist in relation to anything else. Most right-libertarians, on the other hand, have available the assumption (rejected here) that an extensive system of property rights with respect to physical resources is justified.

Types of legal enforcement that depend on force are hard to defend based on the limited self-ownership principle used in this paper. An example is the historical practice of imprisonment for failure to pay off a debt. Although debtor's prisons were common in the past, they are rare in today's world, in which the European Convention on Human Rights (protocol 4, article 1) as well as the International Covenant on Civil and Political Rights (article 11) prohibit imprisonment for breach of contract. A form of debtor's prison still occurs (including in Europe and the US), however, for debt imposed by courts for criminal offences (Sobol 2016). Since this discussion is restricted to private debt, we need not concern ourselves with these modern-day debtor's prisons.

In the current world, however, rights violations may still come into play in two ways: distraint of physical property, and prison sentences for contempt of court after other enforcement measures have failed. I am unsure whether such enforcement practices are ontologically relevant to modern credit, that is, whether there are ontological facts about modern credit that relate to these enforcement practices. (There may be forms of modern credit that are impossible to result in

such enforcement practices, in which case they are not ontologically relevant.) For those concerned, the following discussion assumes that they are.

Enforcement mechanisms involving rights violations are last resorts. Initially, debt is usually enforced by a restructuring of debt as coordinated by a court at the request of a creditor. The debtor's own assets, such as money on the bank or future earnings will be rescinded in favor of her creditor. In the case of a natural person a court may order wage garnishment (US) or attachment of earnings (UK), which requires a debtor's employer to deduct an amount from her wage, to be paid directly to the creditor or a court. This type of enforcement requires compliance of third parties like employers and banks. If they do so willingly, there is no clear case of a rights violation. If these methods fail, potential rights violations come into play.

A first concern is that there are cases in which physical items in possesion of the debtor are forcibly removed, either through distraint or because they were collateral. An example of the latter case is when a house owner defaults on her mortgage. In that case, a court can decide to forcibly remove the inhabitants of the house, such that the bank can sell it. Such cases are complicated because we have assumed that the Lockean justification of property rights fails. Hence, we cannot be sure about the extent to which physical property rights (such as home ownership) are justified. But assume that they are not; in that case, forcibly removing someone from their home may very well be a rights violation.

A second concern is that anyone who does not comply with the court's orders to restructure debt can be found in contempt of court. In theory, this could eventually lead to a prison sentence as well (although I don't know to what extent this is possible in present-day jurisdictions). Such prison sentences, or similar sanctions, would probably be a violation of the self-ownership principle.

Both concerns, I argue, do not typically lead to a violation of the enforcement proviso, because the probability that the enforcement leads to a last resort with potential rights violations is often small. In that case, the creditor is not complicit. However, it could be objected that the *threat* of rights violations is present in a majority of cases, and an important causal factor in ensuring that debtors pay off their debt – of such an importance even, that such threats are ontological features of modern credit. Since credible threats of rights violations are themselves rights violations, this would imply that debt repayments are a result of rights violations in a majority of cases. However, there are reasons to suppose that these threats do not play an important causal role for compliance.

First, participants in an economic community have a big incentive to comply with the court even if there is no risk that they will use physical force, as long as others in the same community comply with the court (i.e., compliance is a Nash equilibrium). This is particularly the case for banks and employers – whose

cooperation is sufficient to make first-line enforcement work, even without any cooperation of the debtor. Noncompliance would result in the loss of credit and the ability to participate in commerce. Moreover, since in developed countries, almost every person and legal entity has a bank account, there is a strong incentive for everyone to comply if banks comply. Hence, big incentives to comply with the legal authority would remain even if there were no threats of rights violations.[4]

Second, alternative enforcement mechanisms, such as credit ratings, are often preferred over legal enforcement. In many cases debt relations exist even though enforcement via the court system is costlier than the writing off of debts, suggesting that the current system of legal enforcement is often not an important causal factor behind compliance.

I conclude that the enforcement proviso is satisfied for modern credit.

4 The Nature and Justification of Historical Credit Money

I have argued that property rights with respect to credit are locally justified, and I have given some tentative arguments for an institutional justification of property rights with respect to modern credit. On the basis of this discussion, the rest of the paper gives an institutional justification of property rights with respect to modern money. This section is concerned with forms of credit money in modern history that are not quite the same as modern money as it exists today, and it asks whether they satisfy the complicity proviso. The purpose of this discussion is to provide a better understanding of the nature of money, which will be of use for the justification of modern money in the next section.

Credit money is any form of credit that is used as a medium of exchange. Our justification will primarily be about bank money, the type of credit money most prevalent in today's society. This section deals with bank money within a system of gold convertibility. Two major forms of such money existed. A promissory bank note is a claim on a bank, held by the holder of the note, to receive the amount specified, denoted in gold, from the issuing bank on demand. Another is the demand deposit, which is a claim of the depositor on the bank to receive an amount on demand. The medium of repayment need not be gold, but we assume that the

4 A hard-line libertarian may object as follows: if the state's legal system had no (threat of) violence to support it, banks would have the option to choose another legal system than the one provided by the state. However, this is a critique of the state's legal system that is not necessarily a problem for our justification. Libertarians are plausibly permitted to participate in the state's legal system, even if this system is unjust, given that no alternatives are available.

value of the debt is denoted in terms of gold, directly or indirectly. Since this type of historical money is credit, it is locally justified by the argument given in Section 3. Of concern is whether it satisfies the complicity proviso, given institutional facts about money under gold convertibility.

I argued in Section 3.2 that the complicity proviso fails for credit either if property rights with respect to the medium of repayment are not justified, or if the medium of repayment's ability to store sufficient value is dependent on a rights violation. In the case of historical money, some might claim, both the medium of repayment as well as the source of value are gold, which would create trouble if property rights with respect to gold are unjustified. This section will primarily be concerned with the first type of problem. I argue that whether the complicity proviso is satisfied depends on which ontological theory of money is true, the (intermediation of) loanable funds ontology, offered within the tradition of metallism, or the credit theory of money.

Bank money has often been an explicit promise by the bank to convert the money into gold on demand, suggesting that gold is the medium of repayment. As explained in greater detail below, this conclusion follows from the loanable funds ontology that is prominent within the tradition of metallism. Metallism is a set of theories which posit a strong connection between money and a commodity, typically gold or silver. According to the credit theory of money, on the other hand, the nature of money is a debt relation in which the holder of money is the creditor. However, the situation is more complicated due to the fact that many versions of these theories exist and authors are often unclear what they mean. Schumpeter ([1954] 1994, 274–275) distinguishes between *theoretical* metallism, which (roughly speaking) holds that it is logically essential for money to consist of some commodity, from which it derives its value, and *practical* metallism, which holds that, as a matter of policy, the value of money should be regulated by some commodity. We could add to this the *historical* metallism commonly associated with Menger (1892), which is based on the thesis that money historically arose in barter economies, as a commodity that is in high demand because it can be exchanged for all other commodities. All of these versions of metallisms have their opposing statements within the credit theory of money, but as Schumpeter notes, one can be a metallist in one respect but a credit theorist in another. To avoid adding to the confusion, let me make clear that I use the words metallism and the credit theory to refer to the traditions rather than a particular thesis; but below I will introduce two particular ontological positions associated with both traditions.

4.1 The Loanable Funds Ontology

Both ontologies I provide aim to analyze credit money in its modern form of bank money. Since, locally, credit money is uncontroversially *credit*, the ontologies differ with respect to nature of the credit claim, and with respect to their function within an institutional structure. Metallists do not deny that forms of credit money such as promissory bank notes and bank deposits are credit, but they tend to give it a distinct analysis, emphasizing its role as *substitute* of gold and silver money.[5] Economic transactions that involve credit money are thought of as transactions involving gold coins, even if no actual gold is involved. According to this paradigm, a credit instrument is used to substitute 'real' money (gold) for convenience, cost reduction and to allow idle real money to be made use of.

While the application of metallism in this form would be restricted to historical money under gold convertibility, the core of its ontological thesis persists today, which has been called the *(intermediation of) loanable funds model*, according to which the activities of banks are thought of as intermediation of loanable funds. Loanable funds are real money – historically gold, fiat money today. The bank intermediates between those who want to store real money (depositors) and those who need real money (borrowers). In this process of intermediation, banks create credit money such as deposits and promissory notes, which embody claims to real money.[6] The loanable funds model underlies much of contemporary mainstream economics,[7] but has recently seen opposition from Post-Keynesian scholars (Graziani 2003; Lavoie 2003), central banks (De Nederlandsche Bank 2015; Jakab and Kumhof 2018) and other financial institutions (Sheard 2013).

The loanable funds model offers on an ontology according to which money is either real money, gold, or a substitute of gold. Credit money, according to the loanable funds ontology, is a direct claim on gold used as substitute. It is this latter

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5 This view is notably expressed by Adam Smith: "The substitution of paper in the room of gold and silver money, replaces a very expensive instrument of commerce with one much less costly, and sometimes equally convenient. Circulation comes to be carried on by a new wheel, which it costs less both to erect and to maintain than the old one" (Smith [1776] 1904, II.2.26).

6 See Schumpeter ([1954] 1994, 303), who describes the establishment of the loanable funds model as invited by a "strictly metallist conception of money." The term *loanable funds model* itself was coined only recently by Jakab and Kumhof (2018).

7 Arguments to that effect are often provided by Post-Keynesian scholars, e.g., Lavoie (2003) and Graziani (2003, 48–54). For an example of the 'mainstream' literature, see the graduate textbook *Contemporary Financial Intermediation*, in which banks are analyzed as financial intermediaries, "entities that intermediate between providers and users of financial capital" (Greenbaum, Thakor, and Boot 2016, p. 24). The same type of analysis underlies the money multiplier model taught in many macroeconomics textbooks (Mankiw 2010; Mishkin 2011).

commitment that could violate the complicity proviso. But the credit ontology offers a more plausible analysis.

4.2 The Credit Ontology

According to the credit theory, money is never a commodity but always a claim. According to its historical thesis, money arose out of already existing credit relations that were used to support commerce before the advent of money (Graeber 2011; Ingham 2004; Mitchell Innes 1913). Commodities or services, according to the theory, are most often traded for credit rather than bartered for other commodities. Typically, the buyer becomes indebted to the seller. This debt relation could be written down or tokens could be used to store the information. Mitchell-Innes and later credit theorists provide ample historical evidence for the claim that money originated out of credit and that many of its forms, including metal coins, in fact represented credit.

The credit theory offers an ontology of credit money at odds with the loanable funds ontology. It makes no distinction between real money and credit money, and it does not assume that there is a strict requirement to repay credit money using any particular object. Evidence for this assumption is the fact that credit money, historically and today, is most often repaid using credit money or other credit instruments. Based on the credit theory of money, one could argue that there is no particular medium of repayment; rather, the substantive promise of the creditor is to repay anything *of a particular value*. The value must be denoted in some numéraire, which could be a weight in gold or silver, or an amount of metal coins; but that does not mean that credit money must be repaid in gold or silver. According to this view, money is not really a substitute of gold, even under gold convertibility of credit money.

The function of gold convertibility, it could be argued, has nothing to do with the medium of repayment, but is to stabilize the value of credit money by connecting it to the value of gold. This is the view held by Henry Thornton ([1802] 1939), who seems to be an ontological credit theorist. Thornton was an important player in the Bullionist Controversy, a debate concerning the convertibility of Bank of England notes into gold bullion.[8] In 1797, after a period of economic unrest in which the Bank's reserves had significantly diminished, the British Parliament passed the Bank Restriction Act, which suspended the conversion of Bank of England notes into gold coins. The Restriction period continued until 1821, when gold convertibility was restored. During the Restriction period, commerce

8 For a historical account of this period and the debates, see Fetter (1965).

continued as before, without significant inflation of the pound. (This could be evidence in favor of the credit ontology: the loanable funds ontology is hard to uphold if the system continues to work while banks do not in fact exchange money for gold, while the credit ontology has no trouble accounting for that fact.) Thornton agreed with Parliament's decision to temporarily suspend convertibility, and forcefully argued against claims that such a suspension would relieve banks of the ostensible moral requirement to 'fulfill their promises'. At the same time, he argued that it was of importance that convertibility should be eventually restored, so that gold would remain to serve as numéraire. Hence, he was, to some extent, a practical metallist. It was in this context that he expressed a version of the credit ontology:

> It is perfectly well understood among all commercial men, that gold coin is not an article in which all payments (though it is so promised) are at any time intended really to be made; that no fund ever was or can be provided by the bank which shall be sufficient for such a purpose; and that gold coin is to be viewed chiefly as a standard by which all bills and paper money should have their value regulated as exactly as possible; and that the main, and, indeed, the only, point is to take all reasonable care that money [i.e., gold coin] shall in fact serve as that standard. (Thornton [1802] 1939, 111)

(The fact that Thornton uses the word 'money' to refer to metal coins, as was customary at the time, does not mean he was a proponent of ontological metallism. In fact, the view he expresses here is that bills and paper money are *credit* – not a substitute of gold – and their medium of repayment not necessarily gold.)

If the loanable funds ontology of money is correct, then the medium of repayment of credit money and other types of credit is gold. Even if credit or credit money is actually repaid using *credit* money, an advocate of the loanable funds ontology will say that credit money is a substitute of gold – its real nature – and that therefore, it is actually repaid with gold. Hence, if the loanable funds ontology of money is correct, the complicity proviso may fail.

If the credit ontology of money is correct, then the medium of repayment is not gold but credit. Even if credit or credit money is sometimes repaid using gold, a credit theorist would argue that gold is of little importance apart from its function as numéraire. Although a system of gold convertibility would require a system of property rights in relation to gold to exist, no actors involved in credit chains need to ever own gold, and, by the credit theory, gold convertibility is not an ontological fact about modern credit and money.

The situation is more complicated for modern money, to which I turn now.

5 The Nature and Justification of Modern Money

Since the collapse of the Bretton Woods system in 1971 most currencies in western countries no longer bear a relationship with gold. In the period that followed the new monetary base, fiat money, has been controlled by governments and central banks. Towards the end of the 20th century there was a shift of monetary control towards independent central banks. The same period saw the development of the neoclassical-Keynesian synthesis, in which Keynes's insights from the *General Theory* (Keynes 1936) were incorporated in mainstream macroeconomic thinking (Blanchard 2018; Rochon and Rossi 2003a). It has been argued that the ontological basis of this new macroeconomics is the loanable funds model, where fiat money (cash and reserves) now plays the role of 'real' money. People choose to deposit cash at the bank, which in turn lends out these funds. Another defining feature of this synthesis is the belief that the central bank controls not just the monetary base of fiat money, but also the total supply of money, including demand deposits and other forms of credit money: in other words, the money supply is exogenous. It fits into the picture of credit money as substitute of real money.

Post-Keynesians – who typically draw on Keynes's other writings, such as the *Treatise on Money* (Keynes [1930] 1971) rather than the *General Theory* – argue that this view of an exogenous money supply is mistaken (Lavoie 2003). Rather, money is endogenous: it is not determined by the central bank but arises out of commercial bank lending. It is said that loans finance deposits: whenever a bank lends out money, a deposit is created at the same time, since the borrower's money is deposited on a bank account. Banks do not need to attract depositors beforehand, although they may need to restructure the assets side of their balance sheets afterward, to remain sufficiently liquid or satisfy capital requirements. Hence, a market for loanable funds does not really exist. Since banks are willing to supply loans to any viable business (one that is able to repay the loans), the money supply is primarily determined by demand for loans – not supply of loanable funds. According to a prominent monetary view within Post-Keynesianism, *horizontalism*, the supply curve of money is near horizontal, and the demand curve for money is determined by the demand for loans rather than liquidity.[9] In other words, the market supplies any amount of money demanded.

It is beyond the scope of this paper to decide between mainstream and Post-Keyenesian macro-economics, but Post-Keynesians do seem to have the upper

9 The supply curve of money plots the amount of money supplied, on the horizontal axis, versus the central bank determined interest rate, on the vertical axis. Horizontalists are opposed by structuralists, but they agree on the endogeneity of the money supply, and to a large extent on the nature of money (Wray 2007).

hand when it comes to the ontological underpinnings of their theory, offering a detailed alternative to the loanable funds model. That is not to say anything about the usefulness or predictive accuracy of models in both traditions – only that the way Post-Keynesians think about money, and its creation and destruction, is an ontologically more accurate description of modern money (for the reasons given in the previous paragraph). In recent times, Post-Keynesians have published detailed accounts of the nature of money (see e.g., the edited volumes Rochon and Rossi 2003b; Smithin 2002), and their observations are useful for our purposes. Hence, the following will draw mainly upon this literature.

Post-Keynesians are universally credit theorists who acknowledge that modern money is a form of credit. According to the doctrine of endogenous money, bank money is created *ex nihilo* by a bank whenever it extends a loan, which introduces on the assets side of its balance sheet the value of the loan and on the liabilities side a deposit. Hence, all deposit money has a loan as its counterpart. This doctrine can be said to be a contemporary application of the ontological credit theory.

The *Theory of the Monetary Circuit* (TMC), also called *circuitism*, elaborates on the process of money creation and destruction (Graziani 2003; Parguez and Seccareccia 2002). According to the TMC, creation of money occurs in two steps. First, the bank extends a loan *to itself*, which then appears on both sides of its balance sheet. Second, it lends out its claim on itself to a depositor, who then becomes both creditor and debtor of the bank. The new loan replaces the bank's claim on itself on its assets side, and the new deposit replaces to bank's debt to itself on its liabilities side.

The TMC provides an account of the purpose of money creation and its trajectory from being created to being destroyed, which sheds light on the source of money's value. The creation of money by a bank starts a cycle. It is created to finance production, primarily by allowing firms to pay wages. This allows firms to start producing goods and services. At the end of the cycle, employees spend their wages on the newly created goods and services. Firms are then able to repay their loans to the bank, at which point the money is destroyed and the cycle finished. What the cycle tells us is that while money is a direct claim on the bank, it is indirectly, via the credit chain, a claim on future production. After all, firms are the ultimate debtors, and in order to pay off their debts they need to accept credit that exists at the other end of the chain. Hence, the TMC suggests that the value of money derives from production (of either goods or services) financed in the same currency.

This notion of 'the source of money's value' is not usually made precise, which I suggest one does as follows. Saying that the source of a currency's value is *X* involves two things. First, it means that *X* is an object or set of objects that has a

value assigned to it, which is roughly equal to the value of all money in existence (in the currency under consideration). Second, it means that there is a dependency in both directions: when the value of *X* changes to a new level, the value of the currency changes to roughly the same level; and when the value of the currency changes, the value of *X* changes to roughly the same level. Given this definition, gold (in the case of historical money) cannot be the source of money's value because the value of all gold existing in banks' vaults is much smaller than the value of all paper money; nor is there the required dependency in the direction of money to gold. Similarly, in the present system, the central bank (or state) cannot be the source of money's value, because it nor its assets are remotely of the same value as the totality of cash and bank deposits. On the other hand, the totality of all future production as secured by promises that producers made in exchange for loans is a plausible candidate for the source of money's value.[10]

The above considerations, inspired by horizontalism and the TMC, provide an ontology of modern money according to which money consists of three sorts of local credit relations. First, the relation between banks and depositors. Second, the relation between banks and firms. Finally, the relation between firms and workers. All three relations are locally justified given arguments I gave in Section 3. Apart from these local features, modern money has institutional features. Money's source of value is production by firms who have monetary debts to banks. Lastly (see below), the central bank makes this possible by supplying fiat and regulating money's value.

The complicity proviso requires that money's ability to store enough value is not dependent on rights violations. One way in which this could happen is if money's source of value is something that involves rights violations. The TMC suggests that, *prima facie*, this is not the case, at least if we restrict ourselves to the production of services. The provision of labor and services are exercises of self-ownership (as long as no people are forced to provide the service). Hence, if money's value derives from services, it is unlikely that there are rights violations

10 It could be objected that money can come into existence, and have value, even if it is not backed by production. For example, suppose that bank A lends a billion euros to bank B, and bank B lends a billion dollars to bank A (in the form of deposits, not high-powered money). Neither bank uses the money, and after a month both repay each other. During this month there were more euros in existence, and the value of all euros in existence was two billion euros higher, while there was no additional production nor a promise thereof. Situations like this, however, should not occur often (there is no reason for the banks to lend money to each other to sit idly on their balance sheets). In normal situations, money comes into existence when a loan is granted to a debtor that is able to make some productive use of the loan. I believe we can overcome the problem described here by changing our definition of the source of money such that we do not include this sort of idle money within the 'totality of money' of a currency.

involved. The fact that the source of value is production that is made possible by labor (presumably voluntarily supplied) gives us some reason to assume that property rights with respect to modern money are institutionally justified.

At this point we have achieved a more accurate version of Dan Moller's example intended to describe the creation of monetary property in a service economy, called *money for numbers*. The example is as follows:

> *Money for numbers*: A software developer needs an algorithm that solves some problem for his code, and you decide to supply him with one. Your work consists in sitting on a park bench and thinking for many hours. You then meet the developer and recite a long number representing the algorithm. After you have recited the long number, he then recites a different number, representing the confirmation code for a hefty bank transfer to go through. Later on, you use your wealth to acquire luxury goods by reciting still other numbers representing still more transfers. Your transactions thus consist of sitting around and reciting numbers, and getting rich meant finding someone willing to hire you to devise and recite a long number. (Moller 2017, 10)

Moller claims that most wealth that is created in today's world is of this form, in which the only ingredients are voluntarily offered services and harmless numbers stored on computers. What he hasn't shown, however, is that modern money plays the harmless role he needs it to play. His claim is that most of today's wealth derives from services, which is a claim about the source of value of wealth in general but not a claim about money. Our discussion thus far suggests that money indeed plays the role of storing that 'wealth derived from services', and that modern money is capable (given its nature) of playing this role in a justified manner. Money consists of credit relations whose value derive from the production of goods and services. Both the credit relations and the services are constituted by actions voluntary performed by individuals, and therefore protected by the self-ownership principle.

5.1 Objections on the Basis of the Complicity Proviso: Physical Property, the Central Bank and the State

There are still three ways in which the complicity proviso may fail. First, money's value may be dependent on the widespread prevalence of physical property, which might involve rights violations. Second, credit money's medium of repayment may be fiat money, and property rights with respect to fiat money may not be justified. Third, the state, via the central bank, controls the value of money (without being its source), which might be a concern for some libertarians. Even if these three features of the modern economic system are not ontological features of modern

money, they might make it impossible to justifiably own modern money under present-day economic conditions.

That the source of value is one thing does not imply that money's ability to store value is dependent on nothing else. However, I believe it is less likely that there are other dependencies, overlooked so far, that are ontologically relevant to modern money. Recall that a fact about modern money is ontological if it describes a necessary feature of modern money. Suppose there is some fact about money in the actual world, not included in the ontology we have built up so far, on which the value of money in the actual world is dependent. Then our ontology provides a compelling story about a way in which modern money could exist even if that fact were false (and therefore, the fact would not describe a necessary feature of modern money). For example, suppose that a central bank in the actual world regularly commits a rights violation, upon which its monetary system is dependent. This means that removing these rights violation (without any additional action) would in some way break the monetary system to strip money of its value. However, given that the TMC provides a compelling and complete picture of how modern money could work without such rights violations, it is plausible that we could replace this 'malfunction' with something else – that is, not only removing the rights violation but fixing the central bank to remove the dependence. In that case, the rights violation is not an ontological fact about modern money.

A first potential dependency of concern is physical property. The TMC suggests that money's value derives from its ability to demand services and goods from firms. However, both the production of services and goods requires a lot of physical property in today's world. For one, goods are sold themselves as items of property. But the problem extends to services, as physical property is almost always involved in the creation of services.

For example, consider passenger aviation services (disregarding any environmental concerns). Currently, airlines own the aircraft they utilize, as well as the fuel they burn. Another example could be the sale of laptops, which are physical goods themselves, and built from a variety of natural resources. Suppose that these uses of physical resources are not only unjustified, but involve rights violations – for example, because others have a right to the use or ownership of these resources, or because the forcible exclusion of others to use these resources involves rights violations. In that case, a case can be made that banks and depositors, who depend on this economic system, are complicit.

Strictly speaking, our justification would only fail if the above features of our economic system are ontological features of modern money. However, if they are not, the justification could still fail to establish that it is possible to justifiably own money in today's world. (While it would establish that in an ideal state without rights violations and a different system of physical property rights, it would be

possible to justifiably own modern money.) Hence, the problem should be addressed in any case: could banks and depositors be complicit in the illegitimate use of physical property elsewhere in the economic system?

The very fact that the use of physical property is so prevalent also undermines the case that one could be complicit by depending on it. It is obvious that one has no choice but to participate in the system of property rights that we have. Hence, if owners of physical property are committing rights violation, they are to some extent forced to do so, and therefore not culpable. Even if they are still responsible for such rights violations to a small extent, it is questionable whether other actors in the economic system – banks and depositors – are complicit.[11] Hence, it is possible to justifiably own money in today's world, even if physical property rights are unjustified.

That still leaves the question whether potentially illegitimate uses of physical property are ontological features of modern money. According to the ontology I have set up, this is not the case. Within the story of the TMC, nothing depends on the existence of physical property as it is defined by the current legal system. This tells us that, in an alternative but fully just economic system, modern money could still exist. Consider that in such a system, it is plausible that we will still use laptops and airplanes, which will be produced and offered by companies. Hence, some just arrangements that allow people to make use of natural resources and physical items, as well as arrangements that allow people to exclude others from the use of natural resources and physical items, *must* exist. Within these arrangements people will be able to offer services like the building of planes and laptops and the operation of airlines; and people will be allowed to use laptops and planes. Goods and services will plausibly still exist (and will be widespread) in a completely just system. Within this system, a monetary system as described by the TMC can still operate. There will be modern money in such a system that is not too different from money in the actual world. Hence, our justification also succeeds in showing that it is possible to justifiably own money in a just system where rights violations with respect to physical property are removed.

For the second concern, regarding credit money's medium of repayment, we need to look at the deposit contract. A depositor has two primary rights. The first is to withdraw the amount of its deposit in the form of paper money – central bank

11 In order to be complicit, one needs to know one participates in a rights violation for which one is culpable. When the level of difficulty to ensure that the other party in a contract won't culpably commit a rights violation is greater, there is a point at which such an investigation should no longer be required. For example, we should not require supermarkets to confirm for all of their customers that they have earned their money rightfully. Likewise, it would be too much to require from a depositor or bank to investigate the entire credit chain on which they depend.

fiat – on demand. The second is to transfer the amount of the deposit to another bank. In TMC fashion, the latter amounts to the following, supposing a transfer from bank A to bank B of an amount of €100. Bank A, in order to accommodate the depositor's transfer request, needs to make a deposit on bank B. In order to do so, it borrows €100 from bank B to be stored on its deposit account on bank B (bank A and bank B now mutually owe each other €100). Bank A's assets and liabilities increase by €100. Bank A then executes its depositor's request by transferring ownership of the bank B deposit to its depositor. At the same time, it subtracts €100 from the depositor's account. Now, both its assets and liabilities decrease by €100. However, bank A is left with a €100 debt to bank B, which will eventually be settled on the interbank lending market.

The deposit transfer is basically a repayment to the depositor (by bank A) in the form of another credit (on bank B). In that sense, the medium of repayment of credit money is credit money. However, the system depends on the ability of banks to settle outstanding debts to each other, which is typically done using central bank reserves. Hence, it is undeniable that fiat money is a medium of repayment in some cases, both when depositors withdraw their money in cash and when banks settle interbank debt as a result of deposit transfers.

There is some controversy about the importance of fiat money in this system. On one side, the horizontalists and circuitists downplay the role of fiat, insisting that money is both created and destroyed as a result of market interactions between banks and firms, that is, money is endogenous. On the other side, the neo-chartalist view as defended in Modern Monetary Theory (MMT) holds that money is essentially a liability of the state (fiat), and its acceptance a direct consequence of the state's power to raise taxes for which it accepts its own liabilities (Wray 1998).

There has been some confusion about the nature and extent of this dispute, which might consist primarily in a different emphasis of fiat or central bank money versus commercial bank money (Juniper, Sharpe, and Watts 2014; Lavoie 2013; Nesiba 2013). Horizontalists and neo-chartalists agree on most things (see Lavoie 2013 for a list), including that all money is credit and that the money supply is endogenous. Neo-chartalist make a number of not-so-controversial claims about the nature and importance of central bank money, which may seem very controversial if they are taken to apply equally to commercial bank money.

To clarify the dispute, a distinction must be made between (1) claims about the source of money's value, (2) the place of fiat and bank money in a logical hierarchy, and (3) control over money's price or money-of-account. The claim that the source of money's value is the state's future tax income is controversial, and I believe that neo-chartalists and horizontalists agree that the source of money's value (as I defined it) is production. Neo-chartalists, however, stress that fiat money is at the top of a debt hierarchy: private debt is settled in bank money, and banks settle their

debt in fiat money. It is the state's power to tax and accept its own currency as tax payment that sustains this debt hierarchy. Lastly, the state together with the central bank controls the value of money (without being its source) via deficit spending and the central bank's interest rate policy.

For the sake of the argument: suppose that neo-chartalists are right that fiat money is at the top of a debt hierarchy, where fiat money is understood to be central bank money: cash and central bank reserves. For currencies of sufficiently sovereign countries, neo-chartalists claim, fiat money is essentially a liability of the state which it emits to fund operations. Its value derives from the state's promise to accept fiat money as payment of taxes, after which it is destroyed.[12] If this account of the nature of fiat money is correct, a libertarian could reasonably object that property rights in relation to fiat money are unjustified, since fiat derives it value from unjust threats of taxation. Does this mean that owners of bank money (depositors) or their debtors (banks) are complicit? I believe the answer is no. The first way in which the complicity proviso could fail is that property rights in relation to the medium of repayment are not justified. But the medium of repayment, in most cases, is still credit money, not fiat money. The second way is that the ability of the medium of repayment to store enough value is dependent on repayment using fiat money elsewhere. However, even if fiat money stands at the top of a logical hierarchy, it need not be the case that fiat money is ever used to repay debt. In theory, banks can settle debts using other assets; and in theory, as well as increasingly in practice, we can do without cash. This suggests that bank money's ability to store value is not dependent on repayments using fiat money.

The situation is analogous to the Bullion debates discussed in Section 4. In a system of gold convertibility, it could similarly be argued that gold sits at the top of a debt hierarchy. However, it is a fact that (1) the medium of repayment was usually not gold and (2) the system proved to be able to keep functioning when gold convertibility was suspended (and hence was not dependent on gold). Echoing Thornton, we may say that fiat money "is not an article in which all payments (though it is so promised) are at any time intended really to be made," but that fiat money serves as a standard of value in which all other debt is denoted. This view is compatible with the hierarchical view, but it allows us to say that someone owning bank money is not involved in whatever rights violations are committed by those owning fiat money: bank money just refers to its value as numéraire.

The third concern is that the central bank plays an essential role in price stability. Without the central bank's limits on credit creation, the value of money could potentially decline without limit, as long as banks increase their supply of

12 For a different analysis of fiat money, see Kumhof et al. (2020). Since this analysis is less problematic for my justification than the neo-chartalist analysis, I will not discuss it here.

credit simultaneously. Consider that if only one bank increases its supply of credit, without increased production of its borrowers, its borrowers will not be able to repay their loans. On the other hand, if all banks increase their supply of credit, without increased production, borrowers will be able to repay their loans as a result of the increased money in circulation – inflation. This could lead to a "Wicksellian cumulative process" in which there are successive increases in credit creation. These increases may lead to increased production, although at a lower productivity. In this context Keynes is frequently quoted as saying "it is evident that there is no limit to the amount of bank money which the banks can safely create provided that they move forward in step" (Keynes [1930] 1971, 23). The state and central bank constrain the extent to which banks can "move forward in step" by controlling the supply of reserves, by stimulating banks to settle debts using reserves (for example, using reserve requirements) and, most importantly, by controlling the interest rate on reserves. A tightening monetary policy, for example, is one in which interest rates rise and the supply of reserves decreases, inducing banks to decrease their own supply of credit. Hence, the central bank controls the value of money via its influence on banks' willingness to create credit.

I believe the above facts about the central bank's role of issuing fiat, controlling money's value and overseeing the banking sector are ontologically essential to modern money. I also believe they raise various normative concerns (extensively discussed in other places). However, it is not clear why these concerns, if warranted, should threaten the justification of property rights with respect to modern money. The central bank's activities are not obviously rights-violating. In essence, they involve the maintenance of a debt clearance system in which commercial banks freely participate. Hence, even though a libertarian might question whether the state should be involved in such activities, there are no clear rights violations in which banks would be complicit.

All three concerns do not lead to a clear violation of the complicity proviso.

6 Conclusion

I argued that credit is locally justified and that modern money is institutionally justified. I will repeat what these results amount to and add what lessons can be learned from them.

First, I argued that property rights in relation to credit and money can be locally justified by assuming only the limited self-ownership principle. The argument is valuable within the libertarian debate, because it does not rely on any principle concerning world-ownership, and therefore, would appeal to all

libertarians. The local justification of basic credit offers a framework for justifying various types of credit based on the following three steps.
1. The actions by creditors and debtors that generate a credit must be be justified.
2. The repayment of debt must not make creditors or debtors complicity in rights violations elsewhere. (The complicity proviso)
3. The debtors compliance to repay must not to be a result of a violation of her rights, or the threat thereof, for which the creditor is responsible. (The enforcement proviso)

The local justification of credit points out that a justification of property rights is contingent on the nature of the type of credit. Libertarians in the past have too often understood property as a uniform concept, while in fact, each type of property is different and requires a different analysis. In case of credit, the justification is dependent, via the enforcement and complicity proviso, on the nature of enforcement and the nature of repayment. In case of money, there are two things about its nature that could lead to a violation of the complicity proviso:
1. What money is convertible to (what its medium of repayment is). The complicity proviso can be violated if property rights with respect to the medium of repayment are unjustified.
2. What money's source of value is. If the value of money would derive from anything that involves rights violations, the complicity proviso could be violated.

Secondly, the paper gives a justification of property rights with respect to modern money, which I argued satisfies the enforcement and complicity proviso. Modern money is a system of credit relations, in which the participants are banks, depositors, the central bank and producers of goods and services. Since none of the participants obviously commit rights violation for which they are morally responsible, these credit relations satisfy the complicity proviso. Hence, within the system of modern money, credit relations are both locally and institutionally justified.

This result could contribute to a debate between left-libertarians and their opponents about the reconcilability of egalitarianism and self-ownership. Left-libertarians argue for redistribution of wealth on the basis of various egalitarian principles about world-ownership that are compatible with self-ownership. Since, as is claimed, wealthy individuals in today's world have appropriated more worldly resources than such a principle allows, justice could require a correction in the form of a redistributive tax or a redistribution of worldly resources.

On the other hand, critics of both socialist (Cohen 1995) and libertarian (Moller 2017) convictions argue that egalitarianism and self-ownership are not so easily

reconciled. Moller argues that since much wealth derives from services and not from world-ownership, it is hard to imagine a justification of redistributive practices on the basis of an egalitarian world-ownership principle. Moreover, as Moller points out as well, redistribution of wealth that derived from services likely threatens self-ownership. As Moller attempts to show in his example Money for numbers (discussed above), wealth can be generated without natural resources playing any significant role, just on the basis of voluntary interactions between individuals. However, *money* does play an indispensable role in making such wealth generation possible, and it is therefore necessary to examine that the role of money does not taint the example. I have argued that, from a self-ownership perspective, money does indeed play the harmless role – as considered from a self-ownership perspective – that Money for numbers suggests it plays.

The widespread creation of wealth (unequally divided) on the basis of the voluntary interactions that constitute services, credit and money makes it harder for left-libertarians to justify redistributive practices, but not impossible. I hope to have shown, however, that such attempts should take into account the voluntary nature of money. With both money and services protected by the self-ownership principle, libertarian redistributive projects must – if they are to remain libertarian – put more effort into avoiding infringement on the rights of individuals.

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